

THE EARLY HISTORY AND RELATIONSHIPS OF THE NEW GUINEA
HIGHLAND DOG (*CANIS HALLSTROMI*)

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Synopsis

There are factual reports of a "barkless" dog from east coastal New Guinea from as early as 1606. Subsequent accounts indicate that this distinctive small dog was forced to the seclusion of a mountainous habitat by a combination of hostile circumstances: such as the eating of its progeny by natives, as reported from Mt. Giluwe, coupled with its lack of pig-hunting ability. This upland migration evidently occurred prior to hybridization with any introduced breed of domesticated canine, as indicated by the fact that the discovery of a small wild dog at about 7,000 ft. on Mount Scratchley in 1897 was considered a faunal novelty by the Administration, according to the Annual Report of the Lieut. Governor, Sir William Macgregor (1898). The term "feral" as applied to the New Guinea Dog by some authors is rejected as being irrelevant regarding the issue of its specific relationship.

In Diego de Prado's *Relacion* of Torres' voyage through the Strait in 1606, as translated from the Spanish in H. N. Stevens (1930) *New Light on the Discovery of Australia* (p. 141) Prado wrote from the Island of San Facundo [S.E. Papua] in 1606: "We found small dumb dogs that neither bark nor howl, and do not cry out even if beaten with sticks." One is indebted to an old colleague, Gilbert Whitley, for this most significant reference, as well as several following made available from his bibliographical researches.

In an anonymous article on "Australasian Islands" in the *Colonial Magazine*, Vol. 7, 1842, p. 62, it is stated that "The bush-dog (*Canis Australiae familiaris*) is an inhabitant of the country Papua: . . . these dogs do not bark, but raise a howling whine, on being disturbed from their repose . . . Dogs form a portion of their native animal food." In 1886 in the *Voyage of the Bonito: an account of the Fly River Expedition to New Guinea*, in the Mitchell Library, William Bauerlen (pp. 28-29) refers to "Native dogs which cannot bark, on the Upper Fly or Strickland" rivers.

Alexander Morton, in "Notes on a trip to the islands of Torres Strait and the south-east coast of New Guinea in *Proc. Roy. Geograph. Soc. Austr., N.S.W. and Vict. Branches*, Vol. 1, 1883, p. 69, states that "Motu natives of the Port Moresby area in 1877 in their legends attributed the gift of speech to the Dogs". However, Miklouho-Maclay (1881), comparing the "Circumvolutions of the Cerebrum" of the Dingo and Papuan Dog, concluded that the superior complexity of the Dingo brain indicated differences in modes of life of the respective canines. He wrote: "The dingo depends upon his skill to provide himself with sufficient food by hunting, which requires often the full use of his intellect." The New Guinea Dog "is very timid, and howls instead of barking . . . is used as food by the natives of the Maclay Coast; his flesh however, when baked or boiled is dark and dry, and is generally regarded by the natives as inferior to that of pig. Although he is sometimes fed by his master and gets with the pigs, all the remnants of the meals, he is often to be seen on reefs at low water, feeding on crabs and small fishes, etc."

"During the night, the dog in company with the pig takes over the business of the 'Nightman' and the 'scavenger' of the Papuan villages. In only a very

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few instances have I seen the natives of the Maclay Coast using their dogs to assist them in their hunting the wild pig, the dorcopsis wallaby and the cassowary . . . I think it is not only too timid, but too lazy and stupid an animal for such an occupation."

In his book on "The Orokaiva Society", F. E. Williams (1930) writes of "The food quest: Dogs are treated affectionately enough by their owners . . . However, the dog does not compare with the pig in the Orokaiva estimation. It is always less a pet than a servant, and is ultimately destined for the pot. In slaughtering it is seized by the hind legs and its body dashed against a tree, a method which seems brutal but is instantly effective! Many specimens are mangy diseased. They are proverbially susceptible to the cold and are commonly seen crouching in the ashes of a hardly expired fire. Indeed the dog is said to have a special prerogative over the fire by virtue of the legendary fact that he first brought fire to the Orokaiva." A footnote adds: "The native dog of the Purari Delta is no doubt a degenerate of the same species. From the canine point of view the Delta must be a very unfortunate environment."

In his *Annual Report on British New Guinea* (1897-1898) Macgregor, referring to an extensive patrol of the Mount Scratchley region at 5,000-7,000 ft., wrote that where there is such an ample variety of food "Animals are rare. The wild dog, an occasional wallaby, a stray tree-kangaroo, and a long-snouted animal not yet obtained, form the bulk of the quadrupeds." Of the two dog specimens subsequently lodged in the Queensland Museum, it is recorded that they were obtained from natives, possibly through the interest of white prospectors in the area, resulting from the Administrative patrol.

The first specimen, evidently received from Sir Wm. Macgregor, was described and figured by De Vis (1911) of the Queensland Museum. His generalized description accounts for the unduly dingo-like illustration in stating that the mounting was from a skin *long macerating in an entirely boneless state*. My examination of the two skins proved his colour description to be rather misleading in giving the overall colouring as "black and white, the black predominant".

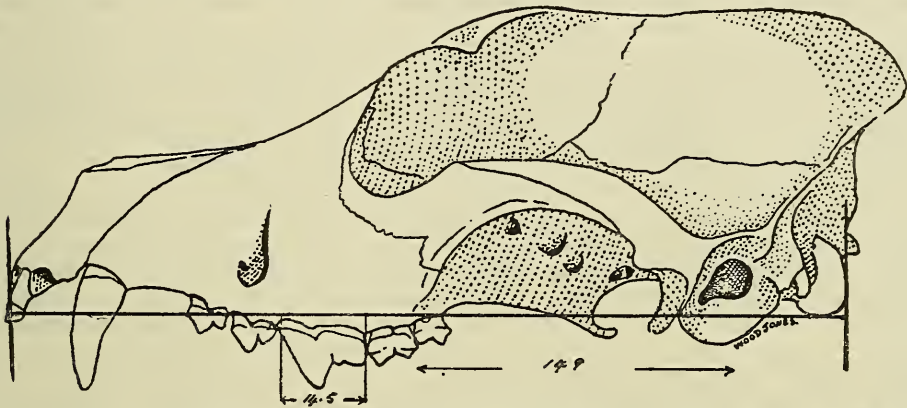
When reviewing the specific status of the dingo, Wood Jones (1925) stated that "examination of a series of Dingo skulls can leave no doubt as to the true affinities of the Australian animal . . . falls into line with all other races of domestic dogs in being of the true northern wolf type. Moreover, in the large size of its last upper premolar, or carnassial tooth, it approaches nearer to the ancestral type than do the other races of dogs of which I am able to obtain specimens or records."

With special reference to the relative proportions of this carnassial tooth, Heber Longman (1928), in "Notes on the Dingo, the Indian Wild Dog, and a Papuan Dog", speculated upon a common origin for the Dingo and Indian Wild Dog. He regarded the two specimens of Papuan Dog in the Queensland Museum as representing "a small breed of true dogs, possibly not truly feral or autochthonous . . . apparently very closely related to the Dingo". However, Longman noted with interest that "this race agrees (in carnassial proportions) with the Indian Wild Dog (21.5 mm.), the Gray Wolf (25), and average of ten dingoes (20) in the relatively large proportion of the carnassial tooth, which is more than 10% of the basi-condylor length of the skull". The relative proportions of upper carnassial to basi-condylor length in the two Papuan Dogs is given respectively by Longman as 15.5 to 149 and 16 to 146 mm.

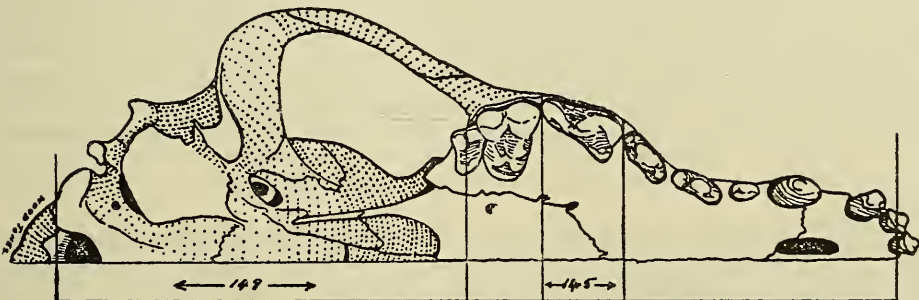
In his paper on "The cranial characters of the Papuan Dog", Wood Jones (1929) refers to Longman's paper and to borrowing the two skulls of Papuan Dog for examination and description. On any doubts concerning their feral nature he stated "no opinion can be expressed . . . but it is abundantly evident that both skulls are of dogs of precisely the same type . . . and any suspicion of their

being of impure breed is negated by this remarkable identity. It is certain that these two skulls are of representatives of the same race and that this race is a primitive one."

"The skulls are of those of small dogs of the terrier type, with fairly elongated noses and well developed muscular crests and ridges. Their most outstanding characters are: (a) The form of the supraorbital processes, which are pointed, flat to concave on the upper surface, and singularly vulpine in character: (b) The sagittal crest, which is formed by a coalescence of the temporal ridges in the region of the coronary suture in both specimens, and which is extremely prominent in its caudal extremity where it joins the well marked nuchal crest: (c) The relatively large size of the upper carnassial tooth, the maximum length of which is nearly ten percent of the condylobasal length: (d) The backward prolongation of the palate behind the last molar tooth, a very well marked distinction of both skulls" (Text-figs. 1 and 2).



Text-fig. 1. After Wood Jones, *American Journal of Mammology*, Vol. 10, 1929. Illustrating some of the cranial features referred to in Wood Jones paper.



Text-fig. 2. After Wood Jones, *American Journal of Mammology*, Vol. 10, 1929. Illustrating some of the cranial features referred to in Wood Jones paper.

Wood Jones concludes "Although these two skulls constitute the only material available for study of this dog, they probably afford definite evidence that the Papuan feral dog is a very definite race, possessing a relatively large upper carnassial tooth typical of primitive canine breeds, and differing widely in its characters from the dogs of certain other Pacific islands. It is much to be desired that more material should be secured before the crossing by the white man's dogs has rendered the breed too hybridized for the purposes of study."

In this regard a "Note on New Guinea Dogs" (1952) by the late Dr. G. H. H. Tate, then a Curator of Mammals at the American Museum of Natural History, becomes of special significance. Briefly reviewing the above contributions on the Papuan Dog, Tate records the Archbold collecting of five specimens along the Idenburg River, on the northern slopes of the central ranges in West Irian. Tate records that "In every instance the carnassial length is more than 10 per cent of the condylo-basal length in the Idenburg River specimens". After some reference to range of colour, and absence of dew claws in both dingo and Papuan Dog, Tate refers to Wood Jones' conviction that the latter was a primitive race.

Thus we have a very considerable extension of the highland range of a small dog of the same type in major cranial characters, from the opposite coast and beyond the border of the Territory of New Guinea. While personally collecting for the Australian Museum around Mount Hagen in 1954, one had hoped to obtain specimens from the relatively intermediate locality of Mount Giluwe, where our host-mentor, Mr. N. E. P. Blood, had observed the dogs around villages at about 8,000 ft. on the 14,346 ft. mountain. Unfortunately, or possibly otherwise for myself, Mr. Blood of the Agricultural Station at Mt. Hagen found it unwise from an Administrative view to commit one to a 4-5 days' "walk" accompanied only by a native constable and "cook-boy". A pair of the dogs was later obtained by an Assistant District Officer, which, because of their heavy toll on poultry around his Station, had to be sacrificed to the villagers.

Consequently, when Sir Edward Hallstrom arranged to receive a pair of the dogs at Taronga Park Zoo, one had no hesitation in naming them specifically for the President of the Trust, and benefactor of the Australian Museum. The living animals, *Canis hallstromi* (1957) were so named to offset the inevitable claims of "Zoo hybridization". The male holotype No. M.8502 and female allotype No. M.8917 in the Australian Museum, came from the then uncontrolled country in the remote Lavani Valley in the Southern Highlands District of Papua. The relative carnassial to condylobasal lengths in the holotype are 15.1 to 151 mm., and 15.5 to 149 in the allotype; and are therefore within the characteristic 10% ratio according to Wood Jones.

Actually, E. P. Ramsay (1879) had named a dog from the south-east coast of Papua *Canis familiaris* var. *papuensis*, mainly on the reported inability to bark. The specimen was received from the collectors, Alexander Morton and Andrew Goldie, and "unfortunately arrived in a very bad state" and evidently was destroyed. Whether Ramsay's name be accepted, or rejected as a *nomen nudum*, it has since been overlooked by all authors with the exception of Miklouho-Maclay (December, 1881). Even Tate (1952), while listing Maclay's paper in his note on the "Papuan Dogs" did not refer to Ramsay's name *papuensis*, though quoting De Vis' statement that the Mount Scratchley dogs "might well be feral".

Throughout this review the specific relationships of the New Guinea Dog have been obscured by the irrelevant use of the term "feral", a taxonomic if not phylogenetic misnomer, without due allowance for the effect of prolonged restriction to a tropical environment. However, one may hope that specific naming of the New Guinea Dog will have served its purpose in bringing consideration of the actual status of the small canid, and its historical association with man, before world students of both Mammology and Anthropology, according with the expressed aims of Professor Wood Jones (1929).

As evidence of such interest, a Mrs. Il Ohman, of Hagford, has written of a Swedish research team's great interest in the New Guinea Dog and of their great anxiety that purity of the breed should be assured in captivity; referring also to a paper by a Dr. Von Rosen "attempting a definition as a species... as highly interesting and decidedly more primitive than the dingo, in general type".

At the request of its author, Mrs. Ohman kindly mailed me a copy of the paper by Dr. Wolfhart Schultz (1969) on "Zur Kenntnis des Hallstromhundes (*Canis hallstromi* Troughton 1957)".

The summary in English, after reviewing several domestic breeds of dog, refers to an examination of "descendants of the original two Papuan Dogs, bred in Kiel University Institut". In his statement that a wide range in coat coloration in the two specimens does not prove them "to be members of a genetically uniform population", Dr. Schultz apparently overlooks the fact that the litters of the original pair were entirely black at birth, as are those in San Diego Zoo and elsewhere, providing a natural basis for adult variation.

In view of the known fact that the New Guinea Dog was evidently well established in its present form prior to 1606, one finds it impossible to agree with Dr. Schultz' conclusion "that the Hallstrom-dogs are dogs returned to a wild state, which are in close relation to the Dingo". A conclusion apparently overlooking the factors of time, isolation, and the extent of zoo-geographical barriers.

In a note on "The Dog of the Tengger", Dr. F. A. Jentink (1896) writes of a peculiar kind of dogs living on Mount Tengger, the highest in East Java, which had been named *Canis familiaris* var. *tenggerana* by Dr. Kohlbrugge and which "could not live without mountains, they died not by 'Heimweh', but by the heat of the lower regions, where they participated with different diseases, where they pined away and languished". Two complete skeletons of the wild Tenggerese dog were presented to the Leyden Museum by Dr. Kohlbrugge. Photos of the skull show the relatively large proportions of the carnassial tooth. This account would seem to support my previous assumption regarding an early upland migration of the New Guinea Dog to its present highland habitat.

Actually, it is my assumption that the ancestral stock of the New Guinea Dog arrived by an Asian route and became established in their present form, prior to the deployment of the Pacific Island Dog of Hawaiian origin. A wider study of the relevant material may provide, according to Wood Jones, "a general factor in solving the problems of racial movements and racial origins of man and the mammals which may have accompanied or preceded him". At Mount Hagen, in 1954, while Mr. N. E. P. Blood was assembling carriers for our several patrols, one was impressed by the yodelling calls used by the natives, simulating the vocal sounds of the "voiceless" New Guinea Dog, and reminding one of the Motu legend regarding the gift of speech. Suggestive also of an age-old association with man, though not of course the order of it.

CONCLUSION

A Papuan region covering the obvious biological unity of the mountainous region of Papua with the Atherton Tableland of N.E. Queensland, was proposed by Charles Hedley (1894). The types of vegetation, reptiles, birds, and marsupials were such, according to Hedley, that any traveller in the heart of the Atherton rainforest "could scarcely answer, from the surroundings, whether he were in New Guinea or Australia".

Therefore, according with the recent discovery of skeletal remains of the Thylacine or "marsupial wolf" at 5,000 ft. (1,525 m.) in the Central Highlands of New Guinea, and doubtless its past occurrence on the Atherton Tableland, in view of persistent reports of a large striped marsupial having inhabited the Tableland, it is now postulated that the New Guinea Highland Dog had a similar prehistoric co-distribution, and became ancestral to the wild dog or Dingo of the Australian mainland, which provided an ample field for the development of the Dingo's hunting resources and physical growth.

References

- ANONYMOUS ARTICLE, 1842.—Australasian Islands. *Colonial Magazine*, 7: 62.
- BAUERLEN, WILLIAM, 1886.—*The Voyage of the Bonito: An Account of the Fly River Expedition to New Guinea*, pp. 28–29.
- DE VIS, C. W., 1911.—A dog from British New Guinea. *Ann. Qld. Mus.*, 10: 19–20, Pl. i.
- HEDLEY, CHARLES, 1894.—The faunal regions of Australia. *Rept. Austr. Assoc. Adv. Science*, 5: 444.
- JENTINK, DR. F. A., 1896.—The Dog of the Tengger. *Notes Leyden Mus.*, 18: 217–220.
- JONES, F. WOOD, 1925.—The mammals of South Australia. *Handbook*, 3: 151–157.
- , 1929. The cranial characters of the Papuan dog. *Amer. Journ. Mammology*, 10 (4): 329–333, figs. 1–2.
- LONGMAN, HEBER A., 1928.—Notes on the dingo, the Indian wild dog, and a Papuan dog. *Mem. Qld. Mus.*, 9 (2): 151–157.
- MACGREGOR, SIR WM., 1898.—*Annual Report on British New Guinea, 1897–1898*, p. 27.
- MACLAY, N. DE MIKLOUHO., 1881.—On the circumvolutions of the cerebrum of *Canis dingo*. *Proc. Linn. Soc. N.S.W.*, 6 (3): 624–626.
- MORTON, ALEXANDER, 1883.—Notes on a trip to the islands of Torres Straits and the S.E. coast of New Guinea. *Proc. Roy. Geogr. Soc. Austr., N.S.W. and Vict. Branches*, i: 69.
- PRADO, DIEGO DE, 1606.—*Relacion of Torres' voyages through the Strait, as translated from the Spanish by N. H. Stevens* (1930). In *New Light on the Discovery of Australia*, p. 141.
- RAMSAY, E. P., 1879.—*Proc. Linn. Soc. N.S.W.*, 3 (3): 242.
- ROSEN, DR. VON, 1953.—*Journal of the Swedish Kennel Club*.
- SCHULZ, DR. VON WOLFHART, 1969.—Zur Kenntnis des Hallstromhundes (*Canis hallstromi* Troughton 1957). *Sonderdruck aus Zool. Anz.*, 183 (1–2): 47–72.
- TATE, G. H. H., 1952.—Archbold Exped., No. 66, Mammals of Cape York Peninsula (note on New Guinea dogs). *Bull. Amer. Mus. Nat. Hist.*, 98 (7): 613–614.
- TROUGHTON, ELLIS, 1957.—A new native dog from the Papuan highlands. *Proc. Roy. Zool. Soc. N. S. Wales*, 1955–1956: 93–94.
- , 1967.—*Furred Animals of Australia*. 9th Edition, pp. 48–52.
- WILLIAMS, F. E., 1930.—*The Orokaiva Society*, p. 62.